

# CLO C-1 Update to Risk-Based Capital Investment Risk and Evaluation (E) Working Group (RBCIRE)

March 24, 2025

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Chairperson, Academy C-1 Subcommittee

# About the Academy

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## **Mission:**

To serve the public and the U.S. actuarial profession.



## **Community:**

Serving over 20K MAAs & public stakeholders for 60 years



## **Standards:**

Setting qualification, practice, and professionalism standards



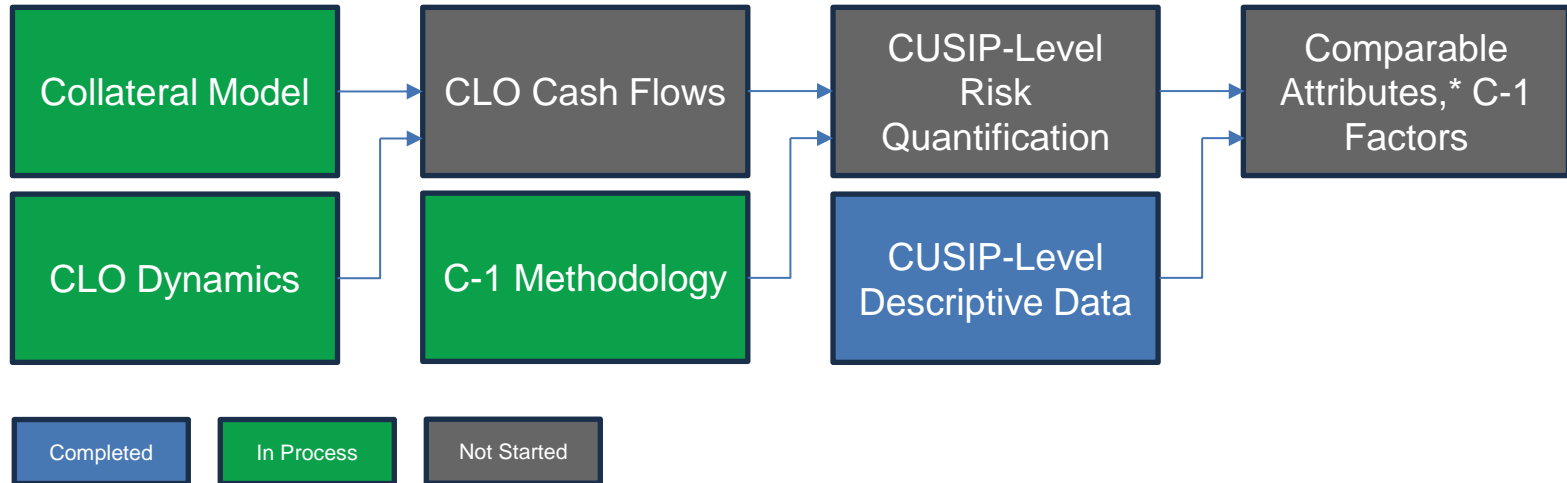
## **Impact:**

Delivering over 300 insight-driven publications & resources annually

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# Data Flow Diagram



\*This analysis is to assess the viability of comparable attributes. If deemed unviable, the result would be individual asset modeling.

## Collateral Model

- Model credit losses on the collateral pool of bank loans
- Objective: Consistency with C-1 bond factors
- Method: Use the same loss model that underlies C-1 bond factors
  - With some potential differences, e.g. secured vs. unsecured
- Status: Working with the ACLI who, with help from Moody's, developed a model that may be helpful as we explore various scenarios
- Once the model is obtained, reasonable simplifications will be explored (e.g., a closed-form approximation for credit losses)

## CLO Dynamics

- Distribution of collateral losses through the CLO waterfall structure
  - Three-way agreement in place between Academy, Moody's, and NAIC for SSG to run Moody's CDOnet software on Academy's behalf
  - Establishing parameterization and settings for CDOnet
- Model to support estimation of debt and residual tranche factors

## C-1 Methodology

How to use CLO cash flows to determine C-1 requirements

- Discounting
- GPVAD (greatest PV of accumulated deficiency) methodology
- Potential of inner vs. outer loops
- Risk premium
- Scenario compression
- Alignment with statutory accounting
- Treatment of PIK

## Key Work Completed so Far

- 2022: [CLO overview](#)
- 2023: [ABS RBC principles](#)
- 2024–2025:
  - Acquisition of Moody’s CLO data
  - Collateral modeling approach
  - Scenario compression approach

## Completed: Acquisition of Moody's CLO Data

- Candidate comparable attributes
- Tranche-level data
- Deal-level data
- Collateral details
- Examples:
  - Tranche/collateral ratings (by CRP)
  - Overcollateralization
  - Tranche thickness



## Completed: Collateral Modeling Approach

- Prioritized consistency with C-1 bond factors
- Used C-1 bond model to produce loss distribution
- Adjusted for seniority of loans vs. bonds and any other known, relevant differences
- Considered closed-form approximation of loss distribution
- Stressed the timing of losses

## Completed: Scenario Compression Approach

- Could not feasibly run thousands of collateral loss scenarios through CLO cash flow model
- The sole use of a single scenario could not be done, due to the cliff-shaped loss distribution of CLOs
- Instead, the tail of the collateral loss distribution will be subdivided into several discrete ranges
  - The average loss of each range will then be run through the CLO cash flow model

## Current/Remaining Work

- Acquisition of C-1 bond factor model or results, allowing for:
  - Collateral modeling specification/approximation
  - Scenario compression specification
- Parameterization of CLO cash flow model
- Conversion of CLO cash flows into losses for C-1 capital, allowing for:
  - Identification of comparable attributes
  - Development of base factors
- Diversification & concentration

## Questions

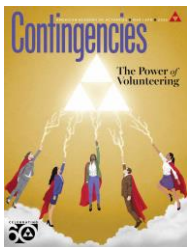
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## Other Academy Resources

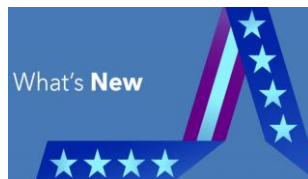
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### Access the Following Resources:



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# Appendix. February 11, 2025 RBCIRE Update

<https://www.actuary.org/sites/default/files/2025-02/Life-Presentation-CLORBCUpdate.pdf>

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February 11, 2025

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Chairperson, Academy C-1 Subcommittee

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